

# TITLE OF THE INVENTION

## CODE GENERATION AND ALLOCATION METHOD

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updated

### CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of United States Patent Application No. 10/125,564, filed April 19, 2002 in the United States Patent and Trademark Office, the disclosure of which is hereby incorporated herein by reference. This application also claims the benefit of Korean Patent Application No. 2001-21360, filed April 20, 2001 in the Korean Industrial Property office, the disclosure of which is incorporated herein by reference.

### BACKGROUND OF THE INVENTION

#### 1. Field of the Invention

[0002] The present invention relates to a method of generating and allocating modulation codes of source codes to be recorded on a recording medium, and more particularly, to a method of generating codewords with a restricted run length and allocating the generated codewords to form a code stream so that a DC control characteristic of the code stream is maintained.

#### 2. Description of the Related Art

[0003] In a Run Length Limited (RLL) code represented by (d, k, m, n), the performance of a code is evaluated mainly based on a recording density and a capability to suppress a DC component of the code. Here, "m" denotes the number of data bits (the number of so-called source data bits, which is also referred to as the number of information word bits), "n" denotes the number of codeword bits after modulation (the number of so-called channel bits) of the source data bits, "d" denotes the minimum number of a series of '0s' that can exist between '1' and '1' in a codeword, and "k" denotes the maximum number of a series of '0s' that can exist between '1' and '1' in a codeword. An interval between the codeword bits in a codeword is represented by T.